

Appl. No. 10/782,915
Docket No. 102-1002
Amendment Dated October 13, 2005
Reply to Office Action of July 27, 2005

REMARKS

Introduction

Applicants are grateful to the Examiner for the courtesies extended in the telephone communication on July 13, 2005 in which the Examiner agreed to issue a Supplemental Office Action to correct an inconsistency in the Office Action of June 14, 2005 and restart the three month statutory period for response. Applicants also note with appreciation the Examiner's indication that each of the references cited in the Information Disclosure Statements filed April 22, 2005 have been considered.

Upon entry of the foregoing Amendment, claims 1-24 are pending in the application. Claims 1, 5, 9, 13, 18, and 20 have been amended. New claim 24 has been added. No new matter is being presented, and approval and entry are respectfully requested. In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

Objection to the Claims

Claim 18 has been objected to due to informalities. Applicants have made the changes suggested by the Examiner. Applicants respectfully request reconsideration of this rejection for the reasons provided below.

Rejection under § 102(e)

Claims 1-23 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Lee (U.S. 6,628,917). Applicants respectfully request reconsideration of this rejection for the reasons provided below.

Claims 1 and 5

At page 2, item 3 of the Office Action, the Examiner asserts that: "Lee discloses...a terminal block 400 connected to the heating coil to supply an external power to the heating coil

(FIG. 10); wherein the heating coil is wound and welded at one side of the terminal block (Fig. 10)." See Office Action of July 27, 2005. Thus, the Examiner relies on element 400 of FIG. 10 of Lee to read as a "terminal block," as presently recited in independent claims 1 and 5 of Applicants' invention.

However, FIG. 10 of Lee illustrates a lead 400 including a thin film 404 having one end welded to a resistive coil 113a at both ends of the heater 113 and the other end welded to a metal terminal 402. See Lee col. 8, lines 16-18 and FIG. 10. The welding sites 420 are the locations where the thin film 404 is spot-welded to the resistive coil 113a and the metal terminal 402. See Lee col. 8, lines 21-24 and FIG. 10. Thus, the resistive coil 113a in Lee, which the Examiner appears to equate with Applicants' heating coil, is not welded to the metal terminal 402 in Lee. In contrast, the resistive coil 113a is welded to the thin film 404, which is then welded to the metal terminal 402. See Lee FIG. 4. In fact, the resistive coil 113a disclosed in Lee does not even contact the metal terminal 402. Since the resistive coil 113a illustrated in FIG. 10 of Lee does not contact the metal terminal 402, Lee does not disclose that the resistive coil 113a is wound about and welded to one side of the metal terminal 402. Furthermore, Lee does not disclose "a terminal block connected to the heating coil," also as presently recited in independent claims 1 and 5. Thus, Applicants' respectfully submit that Lee does not disclose, among other things, "a terminal block connected to the heating coil to supply an external power to the heating coil, wherein the heating coil is wound about and welded to one side of the terminal block," as presently recited in each of independent claims 1 and 5 of Applicants' invention.

Furthermore, the resistive coil 113a disclosed in Lee is arranged straight through the heater 113 and is welded to the thin film 404, which is welded to the metal terminal 402. See Lee FIGS. 4 and 10. Applicants respectfully submit that the resistive coil 113a is not wound around any component or part of the lead device 400 disclosed in FIG. 10 of Lee. At best, the heater 113, which includes the resistive coil 113a, is wrapped around the heat pipe 114 in the fusing roller 112. See Lee FIG. 4. Since the resistive coil 113a disclosed by Lee is not wound around any component or any part in the lead device 400 (FIG. 10), Lee does not disclose where the resistive coil 113a is wound about one side of the metal terminal 402. Thus,

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Applicants' submit that Lee does not disclose, among other things, where the "heating coil is wound about... one side of the terminal block," as presently recited in independent claims 1 and 5 of Applicants' invention.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as contained in the...claim." Richardson v. Suzuki Motor Co., 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). "The elements must be arranged as required by the claim..." In re Bond, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). Accordingly, since Lee does not disclose every element as recited in independent claims 1 and 5 as presently recited, Lee can not be used to properly reject claims 1 and 5 under 35 U.S.C. § 102. Therefore, it is respectfully submitted that independent claims 1 and 5 are allowable over Lee, and withdrawal of this rejection and allowance of these claims are earnestly solicited.

Claim 9

As set forth above in the discussion of claims 1 and 5, Lee does not disclose a heating coil and a terminal block connected to the heating coil to supply an external power to the heating coil. Furthermore, Lee does not disclose wherein the heating coil is wound about and welded to one side of the terminal block, since the resistive coil 113a disclosed by Lee is not wound about and welded to one side of the metal terminal 402. See Lee FIG. 10. Also as set forth above, the resistive coil 113a is not wound around any part of the lead device 400 (FIG. 10) relied on by the Examiner. Thus, Applicants respectfully submit that the metal terminal 402 disclosed by Lee is not the same as the "first and second terminal blocks," as presently recited in independent claim 9 of Applicants' invention. Accordingly, Applicants respectfully submit that Lee does not disclose all the features of independent claim 9. Therefore, it is respectfully submitted that independent claim 9, as presently recited, is allowable over Lee, and withdrawal of this rejection and allowance of this claim is earnestly solicited.

Claim 13

Regarding the rejection of independent claim 13, the Examiner again relies on element 402 (i.e., the metal terminal) in FIG. 10 of Lee to read as a "connecting member," as recited in independent claim 13 of Applicants' invention. See Office Action of July 27, 2005 Page 2, item 3. Applicants respectfully submit that the metal terminal 402 disclosed in Lee is not the same as the "connecting member" as presently recited in claim 13, since the metal terminal 402 does not surround a surface of the heat pipe 114 in Lee, which the Examiner relies on as the "expandable pipe," recited in Applicants' claim 13. See Lee col. 4, lines 42-45 and FIGS. 4 and 10. Since the metal terminal 402 does not surround the surface of the heat pipe 114, Lee does not disclose, among other things, "a connecting member to apply power to the heating coil, the connecting member surrounding a surface of the expandable pipe and being connected to the heating coil by spot welding," as presently recited in independent claim 13 of Applicants' invention.

Furthermore, the metal terminal 402 in FIG. 10 of Lee is not connected to the resistive coil 113a. Rather, the resistive coil 113a is connected to the thin film 404, as discussed above. Thus, Lee also fails to disclose, among other things, the "connecting member...being connected to the heating coil by spot welding," as presently recited in independent claim 13 of Applicants' invention. Since Lee does not disclose every element as presently recited in independent claim 13, Lee can not be used to properly reject independent claim 13 under 35 U.S.C. § 102. Therefore, it is respectfully submitted that independent claim 13 is allowable over Lee, and withdrawal of this rejection and allowance of this claim is earnestly solicited.

Claim 15

Regarding the rejection of independent claim 15, the Examiner takes the position that: "Lee further discloses...the terminal block having a partial slit at one side and the heating coil is wound around the slit (see notch on reference 502, FIG. 11)..." See Office Action of July 27, 2005 Page 2, item 3. Applicants respectfully submit that support for the Examiner's position can not be found in Lee.

FIG. 11 of Lee illustrates that the resistive coil 113a is welded to the thin film 504, which is welded to the metal terminal 502. See Lee col. 8, lines 33-38 and FIG. 11. The metal

terminal 502 illustrated in FIG. 11 appears to have a notch. However, the resistive coil 113a is not wound around the metal terminal 502 through the notch. See Lee FIG. 11. In fact, the resistive coil 113a does not even contact the metal terminal 502 let alone the notch on the metal terminal 502. See Lee FIG. 11. The resistive coil 113a is instead welded to the thin film 504, not the metal terminal 502. Since the resistive coil 113a disclosed in Lee is not wound around the metal terminal 502 through the notch, Lee does not disclose, among other things, "a connecting member to apply power to the heating coil, the connecting member having a partial slit therein in which a portion of the heating coil is wound around the connecting member through the slit to secure the heating coil to the connecting member," as presently recited in independent claim 15 of Applicants' invention. Accordingly, Applicants respectfully submit that Lee does not disclose every element as presently recited in independent claim 15, therefore Lee can not be used to properly reject claim 15 under 35 U.S.C. § 102. It is respectfully submitted that independent claim 15, as presently recited, is allowable over Lee, and withdrawal of this rejection and allowance of this claim is earnestly solicited.

Claim 18

As discussed above, the Examiner's position is that: "Lee further discloses...the terminal block having a partial slit at one side and the heating coil is wound around the slit (see notch on reference 502, FIG. 11)..." See Office Action of July 27, 2005 Page 2, item 3.

Applicants first submit that the rejection of claim 18 is improper for at least the reason that the Examiner has not addressed the features "...a slit section, which is flexible with respect to the end section..." Unless each feature is taught in the prior art being relied upon in an anticipation type rejection, the rejection is improper. Thus, the Examiner's rejection of independent claim 18 under § 102(e) should be withdrawn.

Additionally, as set forth above in the discussion of independent claim 15, the resistive coil 113a disclosed by Lee is not connected to the metal terminal 502 at the notch shown in FIG. 11. The resistive coil 113a does not even contact the metal terminal 502 or the notch. Thus, the metal terminal 502 disclosed in Lee is not the same as the "connecting member," as presently recited in independent claim 18 of Applicants' invention. As a result, Lee does not

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disclose, among other things, "a connecting member to apply power to the heating coil, the connecting member having an end section and a slit section, which is flexible with respect to the end section, the slit section being connected to the heating coil." Since Lee does not disclose every element as recited in independent claim 18, Lee can not be used to properly reject claim independent 18. Therefore, it is respectfully submitted that independent claim 18, as presently recited, is allowable over Lee, and withdrawal of this rejection and allowance of this claim is earnestly solicited.

Dependent Claims 2-4, 6-8, 10-12, 14, 16, 17, and 19-23

It is respectfully requested that for at least the reasons that each of claims 2-4, 6-8, 10-12, 14, 16, 17, and 19-23 depends from independent claims 1, 5, 9, 13, 15, and 18, respectively, claims 2-4, 6-8, 10-12, 14, 16, 17, and 19-23 contain each of the features recited in these claims, and are therefore also patentable over Lee, and withdrawal of the rejection of these claims is earnestly solicited.

New Claim 24

Claim 24 has been newly added. New claim 24 recites "a heating coil wound around the expandable pipe to heat the expandable pipe" and "at least one terminal block disposed around an end of the expandable pipe having a projection with a slit through which the heating coil is wound and secured such that the at least one terminal block provides power to the heating coil." For at least the reasons set forth above with regard to the other independent claims in this application, the features of new claim 24 are not disclosed, taught, or suggested in the prior art of record. Accordingly, it is respectfully submitted that new claim 24 is also allowable over the prior art of record, and allowance of this claim is earnestly solicited.

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Conclusion

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided below.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 502827.

Respectfully submitted,

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